Heavy-Duty Vehicle Emissions and Fuel Consumption Improvement

Contract#: 500-06-043
Contractor: California Air Resourses Board
Contract Amount: $150,000
Contract Term: June 2007 to December 2010
Match Funding: $200,000 (NESCAFF/ICCT)
Contractor Project Manager: David Chen
Commission Project Manager: Tony Tully

The Issue

In the United States, diesel trucks emit approximately 7 percent of greenhouse gas emissions, 20 percent of ozone forming pollutants, and up to 50 percent of particulate matter in urban areas. Worldwide, diesel fuel consumption accounts for about 8 percent of total energy consumption. Trucking accounts for 60 percent of freight energy use in the United States, consuming 2.3 million barrels of oil per day in 2000. These impacts make heavy-duty trucks an important category to evaluate when looking for emissions reductions and fuel consumption savings in the transportation sector.

Project Description

This research will evaluate the combination of vehicle platforms and technologies that would result in the greatest real-world emissions and fuel consumption improvements, particularly in the case of biofuel efficiency. This will be done by testing engines provided by OEMs that are in development and fueling them with ultra-low-sulfur diesel, B20 and one or more other biodiesel blends. The testing will include a 13 mode transient cycle analysis, as well as cold- and hot-start testing.

PIER Program Objectives and Anticipated Benefits for California

This project will develop and help bring to market advanced transportation technologies that reduce air pollution and greenhouse gas emissions beyond applicable standards, and that benefit electricity and natural gas ratepayers (Public Resources Code 25620.1.[b][1], Chapter 512, Statues of 2006) by:

- Meeting or exceeding ARB and U.S. EPA emissions standards.
- Supporting the development of alternative fuel supplies for transportation.

Contact

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